

Claims

What is claimed is:

1. A method of generating data traffic in a traffic generator, the method comprising the steps of:

5 generating a first type of traffic in accordance with a given distribution; and
 generating a second type of traffic different than the first type of traffic, the second type of traffic comprising at least one traffic burst;

 wherein the traffic burst is generated based at least in part on an amount of the first type of traffic generated over one or more time intervals.

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2. The method of claim 1 wherein the step of generating the second type of traffic further comprises accumulating traffic over one or more of the time intervals for which the first type of traffic is generated, and generating the traffic burst based at least in part on the accumulated traffic.

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3. The method of claim 1 wherein the first type of traffic comprises comparative traffic characteristic of non-burst traffic.

4. The method of claim 1 wherein the given distribution comprises a Poisson distribution.

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5. The method of claim 1 wherein the given distribution comprises a Gaussian distribution.

6. The method of claim 1 wherein the step of generating the second type of traffic further comprises the step of determining, for each of the one or more time intervals, if an amount of the traffic of the first type generated during that interval exceeds a comparison level, and if so adding
25 an amount of compensatory traffic to a burst container having a capacity given by a burst size.

7. The method of claim 6 wherein the traffic burst is generated when a total amount of accumulated traffic in the burst container is greater than or equal to the burst size.

8. The method of claim 6 wherein the burst size is determined as a function of a mean burst size and a corresponding variation range.

9. The method of claim 6 wherein the amount of compensatory traffic comprises an amount of traffic given by a compensatory-accumulation size.

10. The method of claim 9 wherein the compensatory-accumulation size is determined as a function of a mean compensatory-accumulation size and a corresponding variation range.

11. The method of claim 1 wherein the one or more time intervals each comprise sample slot times.

12. The method of claim 1 wherein the step of generating the second type of traffic further comprises generating a plurality of traffic bursts, wherein a given one of the traffic bursts is generated by:

determining a current burst size and a current compensatory-accumulation size;
creating an initially-empty burst container having a capacity that is equal to the burst size;

adding compensatory traffic to the burst container whenever the total traffic of the first type generated within a given sample slot time is less than a comparison level, such that for each such addition of compensatory traffic, a level of traffic in the burst container increases by the compensatory-accumulation size; and

generating the given traffic burst when the burst container level is greater than or equal to the burst size.

13. The method of claim 1 wherein the traffic of the second type comprises a plurality of traffic bursts which are generated in a manner which tends to compensate for temporary reductions

in the amount of traffic of the first type so as to substantially maintain a particular level of traffic flow.

14. The method of claim 1 wherein the traffic generator comprises a hardware traffic generator.

15. The method of claim 1 wherein the traffic generator comprises a software traffic generator.

16. An apparatus for generating data traffic, the apparatus comprising an information processing device having a processor and a memory, the information processing device implementing a traffic generator operative:

to generate a first type of traffic in accordance with a given distribution; and

to generate a second type of traffic different than the first type of traffic, the second type of traffic comprising at least one traffic burst;

wherein the traffic burst is generated based at least in part on an amount of the first type of traffic generated over one or more time intervals.

17. An article of manufacture comprising a storage medium containing one or more software programs for use in generating data traffic in a traffic generator, wherein the one or more software programs when executed implement the steps of:

generating a first type of traffic in accordance with a given distribution; and

generating a second type of traffic different than the first type of traffic, the second type of traffic comprising at least one traffic burst;

wherein the traffic burst is generated based at least in part on an amount of the first type of traffic generated over one or more time intervals.